



**FEDERAL AVIATION ADMINISTRATION
AIRWORTHINESS DIRECTIVES**

**SMALL AIRCRAFT, ROTORCRAFT, GLIDERS,
BALLOONS, & AIRSHIPS**

BIWEEKLY 2000-02

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**U.S. Department of Transportation
Federal Aviation Administration**

Regulatory Support Division
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SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS

AD No.	Information	Manufacturer	Applicability
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Info: E - Emergency; COR - Correction; S - Supersedes; R - Revision; + - See AD for additional information

Biweekly 2000-01

99-27-02		Cessna	170B, 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, +
99-27-12	S 99-26-13	Agusta	Rotorcraft: A109A and A109A II

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98-19-15 R1	R 98-19-15	Fairchild	SA226-T, SA226-T(B), SA226-AT, SA226-TC +
99-26-04		Kaman	Rotorcraft: K-1200
2000-01-06		Rolladen	Glider: LS6-c Sailplane
2000-01-09		General Electric	Engine: CJ610, CF700
2000-01-10	S 98-08-07	Pilatus	PC-7
2000-01-11	S 99-17-07	Eurocopter Deutschland	Rotorcraft: MBB-BK 117 A-1, A-3, A-4, B-1, B-2, C-1
2000-01-16	S 75-23-08 R5	Cessna	T310P, T310Q, T310R, 320, 320A, 320B, 320C, 320D +
2000-01-19		Eurocopter Deutschland	Rotorcraft: EC 135 P1, EC 135 T1
2000-02-12	E	Bell	Rotorcraft: 407

**FAIRCHILD AIRCRAFT INC
AIRWORTHINESS DIRECTIVE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

98-19-15 R1 FAIRCHILD AIRCRAFT, INC.: Amendment 39-11507; Docket No. 98-CE-84-AD, Revises AD 98-19-15, Amendment 39-10794.

Applicability: Models SA226-T, SA226-T(B), SA226-AT, SA226-TC, SA227-TT, SA227-AT, SA227-AC, SA227-BC, SA227-CC, and SA227-DC airplanes, all serial numbers, certificated in any category; that are equipped with Barber-Colman pitch trim actuators, part number (P/N) 27-19008-001/-004 or P/N 27-19008-002/-005.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated in the body of this AD, unless already accomplished or made unnecessary by replacement of the P/N 27-19008-001/-004 or P/N 27-19008-002/-005 Barber-Colman pitch trim actuator with a Simmonds-Precision actuator, P/N DL5040M5, P/N DL5040M6, or P/N DL5040M8; or a Barber-Colman actuator, P/N 27-19008-006 or P/N 27-19008-007.

To lessen the possibility of airplane pitch up caused by mechanical failure of the pitch trim actuator, which could result in a pitch upset and structural failure of the airplane, accomplish the following:

(a) Prior to further flight after September 25, 1998 (the effective date of AD 98-19-15), revise the FAA-approved Airplane Flight Manual (AFM) by incorporating the following into the Limitations Section of the AFM. This may be accomplished by inserting a copy of this AD into the AFM:

- “Limit the maximum indicated airspeed to maneuvering airspeed (Va) as shown in the appropriate airplane flight manual (AFM).”

and

- “The minimum crew required is two pilots.”

NOTE 2: Fairchild Service Letter 226-SL-017, Fairchild Service Letter 227-SL-033, and Fairchild Service Letter CC7-SL-023, all FAA Approved: August 26, 1998; Revised: September 2, 1998; address the subject matter of this AD.

NOTE 3: The prior to further flight compliance time of paragraph (a) of this AD is being retained from AD 98-19-15. The only substantive difference between this AD and AD 98-19-15 is the addition of the alternative method of compliance referenced in paragraph (c) of this AD.

(b) Incorporating the AFM revision, as specified in paragraph (a) of this AD, may be performed by the owner/operator holding at least a private pilot certificate as authorized by section 43.7 of the Federal Aviation Regulations (14 CFR 43.7), and must be entered into the aircraft records showing compliance with this AD in accordance with section 43.9 of the Federal Aviation Regulations (14 CFR 43.9).

NOTE 4: This AD does not affect AD 97-23-01, Amendment 39-10188 (62 FR 5922, November 3, 1997). AD 97-23-01 still applies to all SA226 and SA227 series airplanes equipped with either Barber-Colman or Simmonds-Precision pitch trim actuators. AD 97-23-01 will be superseded to cover the improved design pitch trim actuators referenced in paragraphs (c)(1), (c)(2), and (c)(3) of this AD. AD 97-23-01 requires the following:

- repetitively measuring the freeplay of the pitch trim actuator and repetitively inspecting the actuator for rod slippage or ratcheting;
- immediately replacing any actuator if certain freeplay limitations are exceeded or rod slippage or ratcheting is evident; and
- eventually replacing the Simmonds-Precision actuators regardless of the inspection results.

(c) As an alternative method of compliance to the requirements of this AD, replace each of the P/N 27-19008-001/-004 or P/N 27-19008-002/-005 Barber-Colman pitch trim actuators with one of the following, or FAA-approved equivalent part number:

- (1) Barber-Colman P/N 27-19008-006 or P/N 27-19008-007 pitch trim actuators. Procedures to install these pitch trim actuators are contained in Fairchild Service Bulletin 226-27-064, Fairchild Service Bulletin 227-27-046, and Fairchild Service Bulletin CC7-27-015. All airplane models are eligible for this installation and airplane models vary by service bulletin;

(2) Simmonds-Precision P/N DL5040M5 or P/N DL5040M6 pitch trim actuators. All airplane models are eligible for this installation. Procedures and limitations to install these pitch trim actuators for the Models SA227-CC and SA227-DC airplanes are contained in Fairchild Service Bulletin CC7-27-014, and are contained in engineering data for all other models (contact Fairchild); or

(3) Simmonds-Precision P/N DL5040M8 pitch trim actuators. Procedures and limitations to install these pitch trim actuators are contained in Fairchild Service Bulletin 227-27-045, Fairchild Service Bulletin 226-27-063, and Fairchild Service Bulletin CC7-27-013. All airplane models are eligible for this installation and airplane models vary by service bulletin.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(e) An alternative method of compliance or adjustment of the compliance time that provides an equivalent level of safety may be approved by the Manager, Fort Worth Airplane Certification Office (ACO), FAA, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150.

(1) The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Fort Worth ACO.

(2) Alternative methods of compliance approved in accordance with AD 98-19-15 are considered approved as alternative methods of compliance for this AD.

NOTE 5: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Fort Worth ACO.

(f) All persons affected by this directive may obtain copies of the documents referred to herein upon request to Fairchild Aircraft, P.O. Box 790490, San Antonio, Texas 78279-0490; or may examine these documents at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106.

(g) This amendment becomes effective on March 3, 2000.

FOR FURTHER INFORMATION CONTACT:

Mr. Werner G. Koch, Aerospace Engineer, FAA, Aircraft Certification Office, 2601 Meacham Boulevard, Fort Worth, Texas 76193-0150; telephone: (817) 222-5133; facsimile: (817) 222-5960.

Issued in Kansas City, Missouri, on January 4, 2000.

Michael Gallagher, Manager, Small Airplane Directorate, Aircraft Certification Service.

**KAMAN AEROSPACE CORPORATION
AIRWORTHINESS DIRECTIVE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

99-26-04 KAMAN AEROSPACE CORPORATION: Amendment 39-11523. Docket No. 99-SW-72-AD.

Applicability: Model K-1200 helicopters, with clutch assembly, part number (P/N) K974002-701, installed, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required before the first flight of each day.

To prevent failure of the engine adapter flange, loss of power to the main rotors, and a subsequent forced landing, accomplish the following:

(a) Inspect the integrity of the clutch assembly, in a location where background noise would not hinder evaluation, by firmly and uniformly rotating the Kaflex shaft in the anti-rotating direction (counter-clockwise looking forward) while maintaining hand contact. The anti-rotation speed should be approximately one-fourth to one-half revolution per second. An unairworthy clutch will feel rough with a continuous dry "raspy" feel and sound, or it may feel as though the clutch has heavy detents or "catches" on the interior surface that impede the free rotary motion.

(b) Remove any unairworthy clutch assembly, P/N K974002-701, before further flight and replace with an airworthy clutch assembly.

NOTE 2: Kaman K-1200 K-MAX Maintenance Manual Temporary Revision (TR) No. 284, dated November 5, 1999, which revises the procedures for engine area daily inspections and TR No. 289, dated November 12, 1999, which describes the method of inspecting the transmission assembly, pertain to the subject of this AD.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Boston Aircraft Certification Office, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Boston Aircraft Certification Office.

NOTE 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Boston Aircraft Certification Office.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on February 8, 2000, to all persons except those persons to whom it was made immediately effective by Emergency Priority Letter AD99-26-04, issued December 8, 1999, which contained the requirements of this amendment.

FOR FURTHER INFORMATION CONTACT:

Wayne E. Gaulzetti, Aerospace Engineer, FAA, Boston Aircraft Certification Office, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7156, fax (781) 238-7199.

Issued in Fort Worth, Texas, on January 13, 2000.

Eric Bries, Acting Manager, Rotorcraft Directorate, Aircraft Certification Service

**ROLLADEN SCHNEIDER FLUGZEUGBAU GMBH
AIRWORTHINESS DIRECTIVE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

2000-01-06 ROLLADEN SCHNEIDER FLUGZEUGBAU GMBH: Amendment 39-11503; Docket No. 99-CE-76-AD.

(a) What airplanes are affected by this AD?: Model LS6-c sailplanes, serial numbers 6149 through 6382, certificated in any category.

(b) Who must comply with this AD?: Anyone who wishes to operate any of the above airplanes on the U.S. Register.

(c) What problem does this AD address?: The actions specified by this AD are intended to assure that the instrument panel does not jam against the canopy frame of the emergency jettison system. This could restrict the pilot's ability to safely exit the sailplane.

(d) What must I do to address this problem?: To address this problem, you must accomplish all actions of either paragraph (d)(1) or (d)(2) of this AD, as applicable:

(1) For Any Sailplane Equipped With an Instrument Panel That is 40 Centimeters (15.75 Inches) Wide

(i) What actions must I take?: Install a deflector on the cockpit instrument panel; and inspect the canopy emergency jettison system and adjust the system as necessary.

(ii) What procedures must I use?: The procedures contained in Rolladen Schneider Technical Bulletin No. 6036, dated June 8, 1999.

(iii) When must I comply with these actions?:

(A) Installation and Inspection: Within the next 30 calendar days after the effective date of this AD; and

(B) Adjustment, as necessary: Prior to further flight after the required inspection.

(2) For Any Sailplane Equipped With an Instrument Panel That Is Not 40 Centimeters (15.75 Inches) Wide; i.e., 27 Centimeters (10.6 Inches) Wide

(i) What actions must I take?: Inspect the canopy emergency jettison system, adjust the system as necessary, and install a deflector if proper clearance is not met.

(ii) What procedures must I use?: The procedures contained in Rolladen Schneider Technical Bulletin No. 6036, dated June 8, 1999.

(iii) When must I comply with these actions?:

(A) Inspection: Within the next 30 calendar days after the effective date of this AD; and

(B) Adjustment and Installation, as necessary: Prior to further flight after the required inspection.

(e) Can I comply with this AD in any other way?: Yes.

(1) You may use an alternative method of compliance or adjust the compliance time if:

(i) Your alternative method of compliance provides an equivalent level of safety; and

(ii) The Manager, Small Airplane Directorate, approves your alternative. Submit your request through an FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager.

(2) This AD applies to each sailplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For sailplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e)(1) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if you have not eliminated the unsafe condition, specific actions you propose to address it.

(f) Where can I get information about any already-approved alternative methods of compliance?: Contact the Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4121; facsimile: (816) 329-4091.

(g) What if I need to fly the sailplane to another location to comply with this AD?: The FAA can issue a special flight permit under sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate your sailplane to a location where you can accomplish the requirements of this AD.

(h) Who should I contact if I have questions regarding the service information?: Questions or technical information related to Rolladen Schneider Technical Bulletin No. 6036, dated June 8, 1999, should be directed to Rolladen-Schneider Flugzeugbau GmbH, Muhlstrasse 10, D-63329 Egelsbach, Germany; phone: ++ 49 6103 204126; facsimile: ++ 49 6103 45526. This service information may be examined at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106.

(i) Are any service bulletins incorporated into this AD by reference?: Yes. Actions required by this AD must be done in accordance with Rolladen Schneider Technical Bulletin No. 6036, dated June 8, 1999. The Director of the Federal Register approved this incorporation by reference under 5 U.S.C. 552(a) and 1 CFR part 51. You can get copies from Rolladen-Schneider Flugzeugbau GmbH, Muhlstrasse 10, D-63329 Egelsbach, Germany. You can look at copies at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

(j) Has the airworthiness authority for the State of Design addressed this action?: Yes. The subject of this AD is addressed in German AD 1999-266, dated July 6, 1999.

(k) When does this amendment become effective?: This amendment becomes effective on February 4, 2000.

FOR FURTHER INFORMATION CONTACT:

Mr. Mike Kiesov, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4144; facsimile: (816) 329-4090.

Issued in Kansas City, Missouri, on January 3, 2000.

Michael Gallagher, Manager, Small Airplane Directorate, Aircraft Certification Service.

**GENERAL ELECTRIC AIRCRAFT ENGINES (GEAE)
AIRWORTHINESS DIRECTIVE
ENGINE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

2000-01-09 General Electric Aircraft Engines (GEAE): Amendment 39-11506. Docket 99-NE-58-AD.

Applicability: CJ610 series turbojet and CF700 series turbofan engines, with parts listed by part number (P/N) and serial number (SN) in Appendix 1, installed. These engines are installed on, but not limited to, the Dassault-Aviation Fan Jet Falcon 20 series, Sabreliner NA265 series, Learjet 20 series, Israel Aircraft Industries Westwind series, Hansa Jet, Aero Commander, and Jet Commander.

Appendix 1

PART NUMBER	PART NAME	SERIAL NUMBER
3007T98G01	Shaft, compressor drive	HPCTQA11693
3007T98G01	Shaft, compressor drive	HPCTQA11929
3007T98G01	Shaft, compressor drive	HPCTQA1929
3007T98G01	Shaft, compressor drive	HPGTQA9947
3007T98G01	Shaft, compressor drive	TQA14300
37D401014P101	Torque ring, turbine	GGM681
37D401014P101	Torque ring, turbine	GGMCBK1977
37D401014P101	Torque ring, turbine	GGMWZA1230
37D401014P101	Torque ring, turbine	GGMWZA2322
37D401014P101	Torque ring, turbine	GGMWZA4665
37D401014P101	Torque ring, turbine	PMB08403P
37D401014P102	Torque ring, turbine	PMB19204
37D401302P101	Spacer, stage 2	GATI2099WYR
37D401302P101	Spacer, stage 2	GATWZA09656
37D401302P101	Spacer, stage 2	GATWZA10002
37D401302P101	Spacer, stage 2	GATWZA10148
37D401302P101	Spacer, stage 2	GATWZA5419
37D401303P102	Spacer, stage 3	GATCBK02192
37D401303P102	Spacer, stage 3	GATWZA12030
37D401303P102	Spacer, stage 3	GGMWZA1022
37D401303P104	Spacer, stage 3	GATWYR5364
37D401304P104	Spacer, stage 4	GATANWA2378
37D401305P103	Spacer, stage 5	GATANW9528
37D401305P103	Spacer, stage 5	GATANWA7441
37D401305P103	Spacer, stage 5	GATANWA8542
37D401305P103	Spacer, stage 5	GGMANW3172
37D401306P103	Spacer, stage 6	GATANW6380
37D401306P103	Spacer, stage 6	GGMANW2331
37D401306P105	Spacer, stage 6	GATCDY71386
37D401306P105	Spacer, stage 6	GATO7040CDY
37D401307P103	Spacer, stage 7	GAT59653
37D401307P103	Spacer, stage 7	GATANW7170
37D401307P103	Spacer, stage 7	GATANWA7134
37D401307P103	Spacer, stage 7	GGMANW3104
37D401312P101	Disc, stage 2	GATI0156WZA
37D401312P101	Disc, stage 2	GATO8253WZA
37D401312P101	Disc, stage 2	GATWZA3983
37D401312P101	Disc, stage 2	GATWZA6604
37D401312P101	Disc, stage 2	GGMCBK620
37D401312P101	Disc, stage 2	GGMLBA4491
37D401313P101	Disc, stage 3	GATI3249WYI
37D401313P101	Disc, stage 3	GATO7644WZA

PART NUMBER	PART NAME	SERIAL NUMBER
37D401313P101	Disc, stage 3	GATWZA6522
37D401313P101	Disc, stage 3	GATWZA6723
37D401313P101	Disc, stage 3	GGMLBA2102
37D401314P102	Disc, stage4	GAT05572WZA
37D401314P102	Disc, stage 4	GATO4383WZA
37D401314P102	Disc, stage 4	GGMWZA6818
37D401315P101	Disc, stage 5	GAT12406WZA
37D401315P101	Disc, stage 5	GATWZA4753
37D401315P101	Disc, stage 5	GATWZA7093
37D401316P101	Disc, stage 6	GAT10162WZA
37D401316P101	Disc, stage 6	GATWZA4435
37D401316P101	Disc, stage 6	GATWZA7208
37D401316P101	Disc, stage 6	GGMWZA3376
37D401317P101	Disc, stage 7	GAT10013WZA
37D401317P101	Disc, stage 7	GAT13322WZA
37D401317P101	Disc, stage 7	GATI5009WYR
37D401709P101	Disc, stage 8	GATO3900WZA
37D401709P101	Disc, stage 8	GATO5381WZA
37D401709P101	Disc, stage 8	GGMWZA6906
37D401709P101	Disc, stage 8	GGMWZA6942
37E501428P102	Disc and shaft, stage 1	GATI2001WZA
37E501428P102	Disc and shaft, stage 1	GATWZA8639
37E501428P106	Disc and shaft, stage 1	GATO8474WZA
37E501428P106	Disc and shaft, stage 1	GGMWZA3231
4010T01P01	Seal labyrinth, stage 8	JADCSF334P59
4010T01P01	Seal labyrinth, stage 8	JADCSF5222
4010T01P01	Seal labyrinth, stage 8	JADCSF5444P21
4010T01P01	Seal labyrinth, stage 8	JADMCI3214
4036T24P01	Turbine wheel, stage 2	GATWYR14035
4036T24P01	Turbine wheel, stage 2	GATWYR14655
5013T79P01	Disc, stage 5	GATI1679WZA
5013T82P01	Disc, stage 7	GATI7662WYR
5013T88P01	Spacer, stage 4	GAT69935
5013T88P01	Spacer, stage 4	GATCDY66715
5013T89P01	Spacer, stage 5	GAT60180CDY
5013T90P01	Spacer, stage 7	GAT81678CDY
5013T90P01	Spacer, stage 7	GATCDY82036
5018T16P01	Disc, stage 4	GAT12222WYR
6028T44P01	Turbine wheel, stage 1	GAT11900
6028T44P01	Turbine wheel, stage 1	GAT13094
6028T44P01	Turbine wheel, stage 1	GAT14749
6028T44P01	Turbine wheel, stage 1	GAT15160
6028T44P01	Turbine wheel, stage 1	GAT15396WYR
6028T44P01	Turbine wheel, stage 1	GAT15703
6028T44P01	Turbine wheel, stage 1	GAT15821
6028T44P01	Turbine wheel, stage 1	GAT15899
6028T44P01	Turbine wheel, stage 1	GAT59743
6028T44P01	Turbine wheel, stage 1	GAT60190
6028T44P01	Turbine wheel, stage 1	GAT60197
6028T44P01	Turbine wheel, stage 1	GAT60483
6028T44P01	Turbine wheel, stage 1	GAT7321
6028T44P01	Turbine wheel, stage 1	GATA8475

PART NUMBER	PART NAME	SERIAL NUMBER
6028T44P01	Turbine wheel, stage 1	GATA8492
6028T44P01	Turbine wheel, stage 1	GATAJ204
6028T44P01	Turbine wheel, stage 1	GATB6925
6028T44P01	Turbine wheel, stage 1	GATBE998
6028T44P01	Turbine wheel, stage 1	GATE2150
6028T44P01	Turbine wheel, stage 1	GATE2259
6028T44P01	Turbine wheel, stage 1	GATE2291
6028T44P01	Turbine wheel, stage 1	GATE2336
6028T44P01	Turbine wheel, stage 1	GATF4496
6028T44P01	Turbine wheel, stage 1	GATF4507
6028T44P01	Turbine wheel, stage 1	GATFE953
6028T44P01	Turbine wheel, stage 1	GATG6470
6028T44P01	Turbine wheel, stage 1	GATV6541
6028T44P01	Turbine wheel, stage 1	GATV6588
6028T44P01	Turbine wheel, stage 1	GATW1573
634E583P04	Turbine wheel, stage 1	GATWZA4994
634E583P5	Turbine wheel, stage 1	GAT10650
634E583P5	Turbine wheel, stage 1	GAT13048
646C596P2	Turbine wheel, stage 2	GATCBK01912
646C596P2	Turbine wheel, stage 2	GATWYR12725
* 646C596P2	Turbine wheel, stage 2	GATWZA9723
* 646C594P2	Turbine wheel, stage 2	GATWZA9723
* 646C594P1	Turbine wheel, stage 2	GATWZA9723
841B690P7	Assy, Turbine wheel, stage 1	GAT9383WZA
841B690P7	Assy, Turbine wheel, stage 1	GATMKF07225
841B690P7	Assy, Turbine wheel, stage 1	GATWYR12358
841B690P7	Assy, Turbine wheel, stage 1	GATWYR13457
841B690P7	Assy, Turbine wheel, stage 1	GATWYR13677
841B690P7	Assy, Turbine wheel, stage 1	GATWZA8110
841B690P7	Assy, Turbine wheel, stage 1	GATWZA8263
841B690P7	Assy, Turbine wheel, stage 1	GATWZA9182
841B690P7	Assy, Turbine wheel, stage 1	OJL0145
841B690P7	Assy, Turbine wheel, stage 1	WDBMKF07219

* The FAA has determined that up to three Stage 2 Turbine wheels, SN GATWZA9723, may have been distributed with three different P/N's. Therefore, while only P/N 646C596P1 is an approved P/N for the CJ610 and CF700 model engine, all three part numbers are listed.

Note 1: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (b) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent the use of unapproved parts, which could lead to an uncontained engine failure and damage to the airplane, accomplish the following: Replacement of Unapproved Parts

(a) Before further flight after the effective date of this AD, remove any part listed by P/N and SN in Appendix 1 of this AD, and replace it with a serviceable part.

Alternate Methods of Compliance

(b) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Engine Certification Office (ECO). Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, ECO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the ECO.

2000-01-09

Effective Date of This AD

(c) This amendment becomes effective on February 11, 2000.

FOR FURTHER INFORMATION CONTACT:

Kevin Donovan, Aerospace Engineer, Engine Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7743, fax (781) 238-7199.

Issued in Burlington, Massachusetts, on January 5, 2000.

Jay J. Pardee, Manager, Engine and Propeller Directorate, Aircraft Certification Service.

**PILATUS AIRCRAFT LTD
AIRWORTHINESS DIRECTIVE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

2000-01-10 PILATUS AIRCRAFT LTD.: Amendment 39-11508; Docket No. 99-CE-61-AD; Supersedes AD 98-08-07, Amendment 39-10456.

Applicability: Model PC-7 airplanes, all manufacturer serial numbers (MSN) up to and including MSN 614, certificated in any category.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated in the body of this AD, unless already accomplished.

To prevent fatigue failure of the elevator and rudder trim tab pivot arms because of cracks, which could result in the loss of airplane control, accomplish the following:

(a) Within the next 100 hours time-in-service (TIS) after the effective date of this AD, replace the rudder and elevator pivot arms with parts of improved design (or FAA-approved equivalent part numbers), as specified in and in accordance with Pilatus Service Bulletin No. 55-003, dated July 7, 1999. The part numbers of the improved design pivot arms are reflected in the following chart:

Designation	Previous Part Number Installed per AD 98-08-07	New Part Number
Pivot Arm, Inner Elevator	113.50.07.108	113.50.07.108
		(green paint)
Pivot Arm, Outer Elevator	113.50.07.109	113.50.07.109
		(green paint)
Pivot Arm, Upper Rudder	113.40.07.084	113.40.07.084
		(green paint)
Pivot Arm, Lower Rudder	113.40.07.083	113.40.07.083
		(green paint)

(b) As of the effective date of this AD, no person may install, on any of the affected airplanes, an elevator or rudder pivot arm that is not of the improved design specified in paragraph (a) of this AD.

(c) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(d) An alternative method of compliance or adjustment of the compliance times that provides an equivalent level of safety may be approved by the Manager, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106.

(1) The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Small Airplane Directorate.

(2) Alternative methods of compliance approved in accordance with AD 98-08-07 are not considered approved as alternative methods of compliance for this AD.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Small Airplane Directorate.

(e) Questions or technical information related to Pilatus Service Bulletin No. 55-003, dated July 7, 1999, should be directed to Pilatus Aircraft Ltd., Customer Liaison Manager, CH-6371 Stans, Switzerland; telephone: +41 41 619 65 09; facsimile: +41 41 610 33 51. This service information may be examined at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106.

(f) The replacements required by this AD shall be done in accordance with Pilatus Service Bulletin No. 55-003, dated July 7, 1999. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Pilatus Aircraft Ltd., Customer Liaison Manager, CH-6371 Stans, Switzerland. Copies may be inspected at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

2000-01-10

NOTE 3: The subject of this AD is addressed in Swiss Airworthiness Directive HB 99-412, Effective Date: August 31, 1999.

- (g) This amendment supersedes AD 98-08-07, Amendment 39-10456.
- (h) This amendment becomes effective on March 3, 2000.

FOR FURTHER INFORMATION CONTACT:

Roman T. Gabrys, Aerospace Engineer, FAA, Small Airplane Directorate, FAA, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4141; facsimile: (816) 329-4090.

Issued in Kansas City, Missouri, on January 4, 2000.

Michael Gallagher, Manager, Small Airplane Directorate, Aircraft Certification Service.

**EUROCOPTER DEUTSCHLAND GMBH
AIRWORTHINESS DIRECTIVE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

2000-01-11 EUROCOPTER DEUTSCHLAND GMBH: Amendment 39-11509. Docket No. 99-SW-60-AD. Supersedes Emergency Priority Letter AD 99-17-07, Docket No. 99-SW-49-AD.

Applicability: Model MBB-BK 117 A-1, A-3, A-4, B-1, B-2, and C-1 helicopters, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (f) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent main rotor blade (blade) separation due to failure of a tension-torsion (TT) strap, accomplish the following:

- (a) Before further flight,
 - (1) Create a component log card or equivalent record for each TT strap.
 - (2) Review the history of the helicopter and each TT strap. Determine the age since initial installation on any helicopter (age) and the number of flights on each TT strap. Enter both the age and the number of flights for each TT strap on the component log card or equivalent record. Where the number of flights is unknown, multiply the number of hours time-in-service (TIS) by 5 to determine the number of flights.
 - (3) If the number of flights and age cannot be determined, remove the TT strap from service.
 - (4) Remove any TT strap from service that has either accumulated 25,000 or more flights or is equal to or greater than 180 months of age.

(b) When a TT strap age is equal to or greater than 120 months and less than 180 months and the number of flights on the TT straps are less than 25,000, inspect the TT strap in accordance with paragraph 2.B.2 of the "Accomplishment Instructions," Eurocopter Deutschland GMBH Alert Service Bulletin MBB-BK 117 No. ASB-MBB-BK 117-10-120 (ASB), Revision 1, dated August 31, 1999, according to the following:

- (1) If the age is greater than or equal to 120 months but less than 132 months and has less than 22,000 flights, inspect the TT strap within the next 6 weeks. If the number of flights equals or exceeds 22,000, inspect the TT strap before further flight.
- (2) If the age is greater than or equal to 132 months but less than 144 months and has less than 19,000 flights, inspect the TT strap within the next 5 weeks. If the number of flights equals or exceeds 19,000, inspect the TT strap before further flight.
- (3) If the age is greater than or equal to 144 months but less than 156 months and has less than 16,000 flights, inspect the TT strap within the next 4 weeks. If the number of flights equals or exceeds 16,000, inspect the TT strap before further flight.
- (4) If the age is greater than or equal to 156 months but less than 168 months and has less than 13,000 flights, inspect the TT strap within the next 3 weeks. If the number of flights equals or exceeds 13,000, inspect the TT strap before further flight.
- (5) If the age is greater than or equal to 168 months but less than 180 months and has less than 10,000 flights, inspect the TT strap within the next 2 weeks. If the number of flights equals or exceeds 10,000, inspect the TT strap before further flight.

Remove any TT strap from service before exceeding the allowable number of flights or 180 months, whichever occurs first.

- (c) If a defect is found as a result of the inspection, remove the TT strap from service prior to further flight.
- (d) If no defect is found as a result of the inspection in paragraph (b), a maximum of 500 flights is permitted on a one-time basis before the TT strap must be replaced, provided the limits of paragraphs (a)(4) and (b) are not exceeded.
- (e) TT straps, part number (P/N) 2604067 or J17322-1, are not eligible for installation. Prior to installation, P/N 2604067 or J17322-1 must be re-identified according to paragraph 2.B.1 of the "Accomplishment Instructions" of the ASB, Revision 1, dated August 31, 1999.

(f) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Regulations Group, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Regulations Group.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Regulations Group.

(g) Special flight permits may be issued for up to five flights in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(h) The inspections and re-identification of TT straps shall be done in accordance with the "Accomplishment Instructions," paragraph 2.B.1 and 2.B.2, of Eurocopter Deutschland GMBH Alert Service Bulletin MBB BK 117 No.ASB-MBB-BK 117-10-120, Revision 1, dated August 31, 1999. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from American Eurocopter Corporation, 2701 Forum Drive, Grand Prairie, Texas 75053-4005, telephone (972) 641-3460, fax (972) 641-3527. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

NOTE 3: The subject of this AD is addressed in Luftfahrt-Bundesamt (LBA), Federal Republic of Germany, AD 1999-284, dated August 6, 1999.

(i) This amendment becomes effective on January 28, 2000.

FOR FURTHER INFORMATION CONTACT:

Charles Harrison, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5128, fax (817) 222-5961.

Issued in Fort Worth, Texas, on January 5, 2000.

Henry A. Armstrong, Manager, Rotorcraft Directorate, Aircraft Certification Service.

**CESSNA AIRCRAFT COMPANY
AIRWORTHINESS DIRECTIVE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

2000-01-16 CESSNA AIRCRAFT COMPANY: Amendment 39-11514; Docket No. 97-CE-67-AD. Supersedes AD 75-23-08 R5, Amendment 39-5451.

Applicability: Models T310P, T310Q, T310R, 320, 320A, 320B, 320C, 320D, 320E, 320F, 320-1, 335, 340, 340A, 321 (Navy OE-2), 401, 401A, 401B, 402, 402A, 402B, 402C, 404, 411, 411A, 414, 414A, 421, 421A, 421B, and 421C airplanes, all serial numbers, certificated in any category.

NOTE 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (i) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated in the compliance table in Figure 1 of this AD, unless already accomplished. Compliance times of this AD may be extended 10-percent to work the actions in with already scheduled maintenance.

To detect and correct cracks and corrosion in the exhaust system, which could result in exhaust system failure and a possible uncontrollable in-flight fire with pilot and/or passenger injury, accomplish the following:

(a) The following paragraphs present the type of individuals who have the authority to accomplish the actions of this AD:

(1) Repairs: Required to be accomplished at an FAA-approved exhaust repair facility (or for non U.S.-registered airplanes: the state of registry's equivalent facility in accordance with their applicable procedure).

(2) Replacements: Required to be accomplished in accordance with the appropriate Cessna Service Manual and must be accomplished by a person holding a currently effective mechanic certificate with both an airframe and powerplant (A&P) rating or by an individual authorized to represent an FAA-approved repair station (or for non U.S.-registered airplanes: the state of registry's equivalent facility in accordance with their applicable procedure).

(3) Visual inspections except for paragraph (g) of this AD: Required to be accomplished by a person holding a currently effective mechanic certificate with both an airframe and powerplant (A&P) rating (or for non U.S.-registered airplanes: the state of registry's equivalent facility in accordance with their applicable procedure).

NOTE 2: Commercial certificate holders operating under part 121 or part 135 of the Federal Aviation Regulations (14 CFR part 121 or 14 CFR part 135) could have accomplished the actions of this AD if in compliance with an FAA-approved maintenance program. "Unless already accomplished" credit should be taken in these situations.

NOTE 3: Cessna service information and Maintenance Manual Revisions include assembly, disassembly, and general guidance information for the subject of this AD. These documents should not be utilized for repairs. This AD takes precedence over these documents.

Figure 1 of Docket No. 97-CE-67-AD
Compliance Table

Letters in () correspond with AD paragraphs	(b)	(c)	(d)	(e)	(f)	(g)	Throughout the AD
Actions of Docket No. 97-CE-67-AD	<i>Visually inspect the exhaust system.</i>	<i>Remove the tailpipes and visually inspect for any crack, corrosion, holes, or distortion.</i>	<i>Visually inspect the outboard engine beams, firewalls, and canted bulkheads.</i>	<i>Inspect and pressure test the exhaust system.</i>	<i>Replace the multi- segment V-band clamps.</i>	<i>Remove the exhaust system from the slip joints aft to all turbo-charger components.</i>	<i>If any damage is found on any component or part, repair or replace the damaged component or part in accordance with this AD.</i>

Figure 1 of Docket No. 97-CE-67-AD (cont'd)

Letters in () correspond with AD paragraphs	(b)	(c)	(d)	(e)	(f)	(g)	Throughout the AD
Initial Compliance Time	Within the next 50 hours TIS after the effective date of this AD or within the next 30 calendar days, whichever occurs later.	Upon the accumulation of 5 years since installing a new or overhauled exhaust system or within the next 100 hours TIS after the effective date of this AD, whichever occurs later.	Within the next 100 hours TIS after the effective date of this AD.	Upon the accumulation of 5 years since installing a new or overhauled exhaust system or within the next 100 hours TIS after the effective date of this AD, whichever occurs later.	Within 500 hours TIS after the last replacement required by AD 75-23-08 R5 or within the next 500 hours TIS after the effective date of this AD, whichever occurs first.	At whichever occurs later: - At the next engine overhaul that occurs after the accumulation of 2,500 hours TIS since installing a new or overhauled exhaust system; or - Within the next 100 hours TIS after the effective date of this AD.	Prior to further flight after damage is found.
Repetitive Compliance Times	Thereafter at intervals not to exceed 50 hours TIS or 30 calendar days, whichever occurs later.	Thereafter at intervals not to exceed 12 calendar months.	Thereafter at intervals not to exceed 500 hours TIS.	Thereafter at intervals not to exceed 12 calendar months.	Thereafter at intervals not to exceed 500 hours TIS.	Thereafter at intervals not to exceed 2,500 hours TIS or 12 years, whichever occurs first. These inspection intervals are established to coincide with each regularly scheduled engine overhaul.	Prior to further flight after damage is found.

(b) At the Initial Compliance Time and Repetitive Compliance Times specified in Figure 1 of this AD, visually inspect the exhaust system for burned areas, cracks, or looseness. If any area of the exhaust system shows damage as defined in the Appendix of this AD, prior to further flight, repair or replace the damage part.

NOTE 4: Cessna Service Bulletin (SB) MEB99-6, Cessna SB MEB99-9, and Cessna SB MEB99-12, all dated August 2, 1999, specify and include procedures for installing access panels to help with the exhaust system inspections. Each service bulletin applies to various Cessna airplane models.

(c) At the Initial Compliance Time specified in Figure 1 of this AD, remove the tailpipes and visually inspect for cracks, corrosion, holes, or distortion.

(1) If no crack, corrosion, hole, or distortion is found, continue to visually inspect at intervals indicated in Repetitive Compliance Times in Figure 1 of this AD.

(2) If a crack, corrosion, hole, or distortion is found during any inspection, prior to further flight, repair or replace the tailpipe.

NOTE 5: Although not required by this AD, the FAA recommends removing and cleaning internally (every 12 calendar months) all tailpipes that are more than 5 years old from the date of manufacture or overhaul (yellow tag). This includes accomplishing the following:

- inspecting for cracks, pinholes, corrosion buildup, and general airworthiness;
- overhauling the tailpipe or replacing all parts considered suspect; and
- approving for return to service of all parts considered airworthy.

NOTE 6: The FAA recommends checking the turbocharger wheel for ease of rotation any time the tailpipe is removed. Excessive friction in the turbocharger wheel bearings can cause high exhaust back pressure, which can adversely affect the cylinder compression, the exhaust valve guide, and the exhaust valve and piston life. The turbine wheel should continue to rotate for at least three seconds after spinning induced by fingers or a wooden tool.

NOTE 7: The FAA recommends examining the system to assure that cables and torque tag values are intact on the single-piece V-band clamps.

(d) At the Initial Compliance Time and Repetitive Compliance Times specified in Figure 1 of this AD, visually inspect the outboard engine beam (adjacent to the tailpipe) and the canted bulkheads for signs of distress, chafing, corrosion, or cracking. Even though some airplanes may have stainless steel engine beams, carefully inspect the areas of contact between the engine beam and canted bulkhead for corrosion.

(1) If damage to the engine beams is found that exceeds 10-percent of the material thickness or there is evidence of overheating on the firewall beyond that which can be removed with "scotchbrite" or equivalent, prior to further flight, replace the firewall and the aluminum fuel lines behind the firewall. Stainless steel fuel lines are available from the Cessna Aircraft Company. Replacement of the fuel lines behind the firewall may require removing and replacing the firewall or accomplishing major repair of the firewall.

(2) Prior to further flight, accomplish one of the following:

(i) Repair any chafing, corrosion, or cracking on the engine beams or canted bulkheads or distress or damage beyond that which is described in paragraph (d)(1) of this AD, in accordance with data provided by any individual or facility that is authorized by the FAA to perform the necessary repairs or provide the FAA-approved data to authorized personnel for repair of these items; or

(ii) Replace any parts that have chafing, corrosion, or cracking on the engine beams or canted bulkheads, or distress or damage beyond that which is described in paragraph (d)(1) of this AD.

(e) At the Initial Compliance Time (which is based on the condition of the exhaust system at the slip joints and aft) and Repetitive Compliance Times specified in Figure 1 of this AD, inspect the exhaust system from the slip joints and aft and perform a pressure test in accordance with the Appendix of this AD. If any condition as specified in the Appendix of this AD is found, prior to further flight, send these parts to an FAA-approved exhaust repair facility for inspection and possible repair or replace the affected parts with serviceable parts approved for the affected airplanes.

(f) At the Initial Compliance Time and Repetitive Compliance Times specified in Figure 1 of this AD, replace all multi-segment V-band clamps per the appropriate Cessna Service Manual.

(g) At the Initial Compliance Time and Repetitive Compliance Times specified in Figure 1 of this AD, remove the exhaust system from the slip joints and aft to all turbo-charger attached components, and send to any FAA-approved exhaust repair facility. The FAA-approved exhaust repair facility will inspect this portion of the exhaust system for serviceable condition and make any necessary repairs to these items. No overlay patch-type or parallel multi-seam weld repairs are permitted. Inlay patch repairs and multi-seam welds at joints that are similar to the original construction are acceptable.

(h) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished. Isolation of the fuel cross feed lines behind the firewall may be required.

(i) An alternative method of compliance or adjustment of the initial or repetitive compliance times that provides an equivalent level of safety may be approved by the Manager, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209.

(1) The request shall be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, Wichita Aircraft Certification Office.

(2) Alternative methods of compliance approved in accordance with AD 75-23-08 R5 are not considered approved as alternative methods of compliance for this AD.

NOTE 8: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Wichita Aircraft Certification Office.

(j) Information related to this AD may be examined at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Room 506, Kansas City, Missouri 64106.

(k) This amendment supersedes AD 75-23-08 R5, Amendment 39-5451.

Appendix to Docket No. 97-CE-67-AD

VISUAL INSPECTION

(a) CLEANING

In order to properly inspect the exhaust system, components must be clean and free of oil, grease, etc. If required, clean as follows:

- (1) Clean engine exhaust components with a suitable solvent, allow to drain, and wipe dry with a clean cloth.

WARNING: NEVER USE HIGHLY FLAMMABLE SOLVENTS ON ENGINE EXHAUST SYSTEMS. NEVER USE A WIRE BRUSH OR ABRASIVES TO CLEAN EXHAUST SYSTEMS OR MARK ON THE SYSTEM WITH LEAD PENCILS.

- (2) Remove the heat shields from the turbocharger in accordance with the heat shield removal procedures in the appropriate Cessna Aircraft Service Manual.

- (3) Remove shields around the exhaust bellows or slip joints, multi-segment "V" band clamps at joints, and other items that might hinder the inspection of the system. Removal of the "V" band clamps may not be necessary.

- (4) Using crocus cloth, polish any suspect surfaces to verify that no cracks or pinholes exist in the material. Replace or repair any part where cracks or pinholes exist.

(b) VISUAL INSPECTION OF COMPLETE SYSTEM

NOTE 1: Conduct this inspection when the engine is cool.

- (1) Visually inspect exhaust stacks for burned areas, cracks, bulges, and looseness. Make sure the attach bolts are properly torqued, in accordance with the appropriate Cessna Aircraft Service Manual.

NOTE 2: During this inspection, pay special attention to the condition of the bellows, if installed, and welded areas along the seams; the welded areas around the bellows; and the welded seams around the exhaust system components.

- (2) Visually inspect the flexible connection between the waste-gate and overboard duct (when applicable) for cracks and security.

- (3) Visually inspect the exhaust joint springs for correct compression. If the joint is disturbed or if the springs are obviously loose or frozen, proceed with the following inspection (see Figure 1 of this Appendix).

- (i) Before removal of the exhaust joint springs, measure the installed length of each spring, and replace the springs compressed to less than .45 inch.

- (ii) Remove all the springs and measure the free length. Replace any spring having a free length of less than .57 inch.

NOTE 3: Add AN960-10 (or FAA-approved equivalent part number) washers under the head of the joint bolts as required to obtain the correct dimension. During installation, the joint bolts should be tightened gradually and spring length checked frequently to prevent over-compression of the springs.

- (iii) Reinstall the springs and measure the installed length. The length must be .51 inch (+.00, -.03 inch).

- (4) If installed, visually inspect the slip joint(s) for bulges beyond the normal manufacturing irregularities of .03 inches and/or cracks. If any bulges and/or cracks are present, replace the bulged or cracked slip joint(s). (Refer to the appropriate Cessna Aircraft Service Manual) (See Figure 2 of this Appendix).

(c) INSPECTION OF THE MULTI-SEGMENT "V" BAND CLAMP(S). (BETWEEN ENGINE AND TURBOCHARGER.)

- 1) Using crocus cloth, clean the outer band of the multi-segment "V" band clamp(s). Pay particular attention to the spot weld area on the clamp(s).

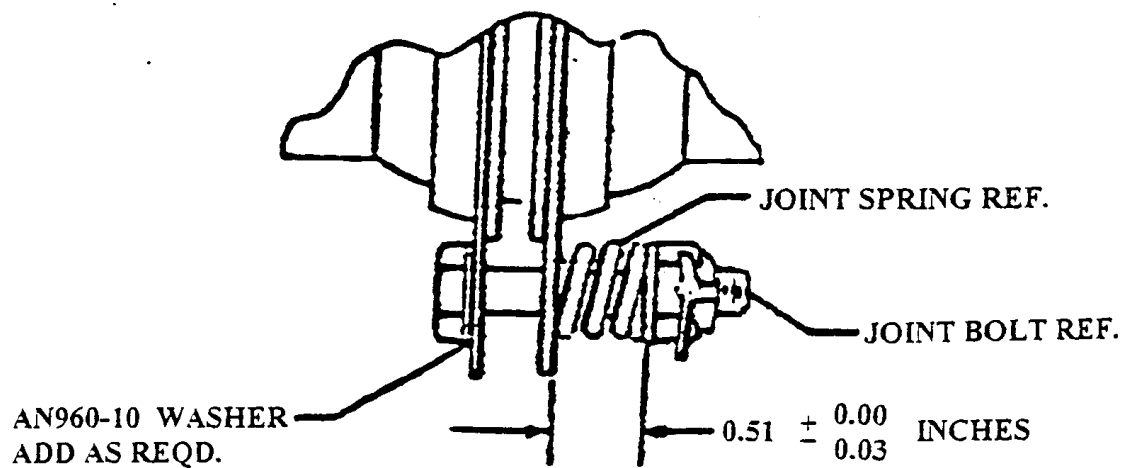
- (2) With the clamp(s) properly torqued, progress to the following actions:

- (i) Visually inspect the outer band in the area of the spot weld for cracks (see Figure 3 of this Appendix). If cracks are found, replace the clamp(s) with new multi-segment "V" band clamp(s).

- (ii) Visually inspect the corner radii of the clamp inner segments for cracks (see Figure 3 of this Appendix). This inspection requires careful use of artificial light and inspection mirrors.

- (iii) Visually inspect the flatness of the outer band, especially within 2 inches of the spot welded tabs that retain the T-bolt fastener. This can be done by placing a straight edge across the flat part of the outer band as shown in Figure 4 of this Appendix, then check the gap between the straight edge and the outer band. This gap should be less than 0.062 inch. If deformation exceeds the 0.062- inch limit, replace the clamp(s) with new multi-segment clamp(s). (See Figure 3 of this Appendix). See Cessna maintenance manual(s) and revisions for correct installation procedures.

- (iv) Visually inspect the one-piece "V" band clamp (overboard exhaust to turbocharger) with a light and mirror, in the area of the clamp surfaces adjacent to the intersection of the "V" apex and bolt clips, and the entire length of the "V" apex of the clamp for signs of cracks or fractures. If cracks or fractures are visible, replace the clamp (see Figure 5 of this Appendix). See Cessna service manual(s) and revisions for correct installation procedures



Typical Exhaust Joint Spring Installation

FIGURE 1 to the Appendix

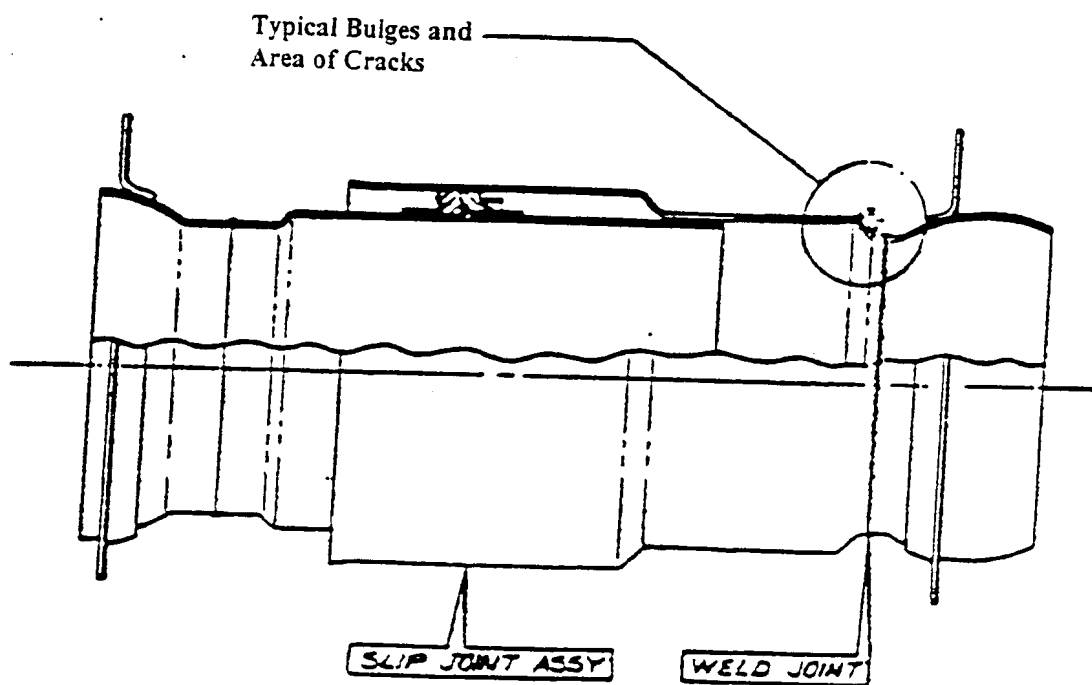
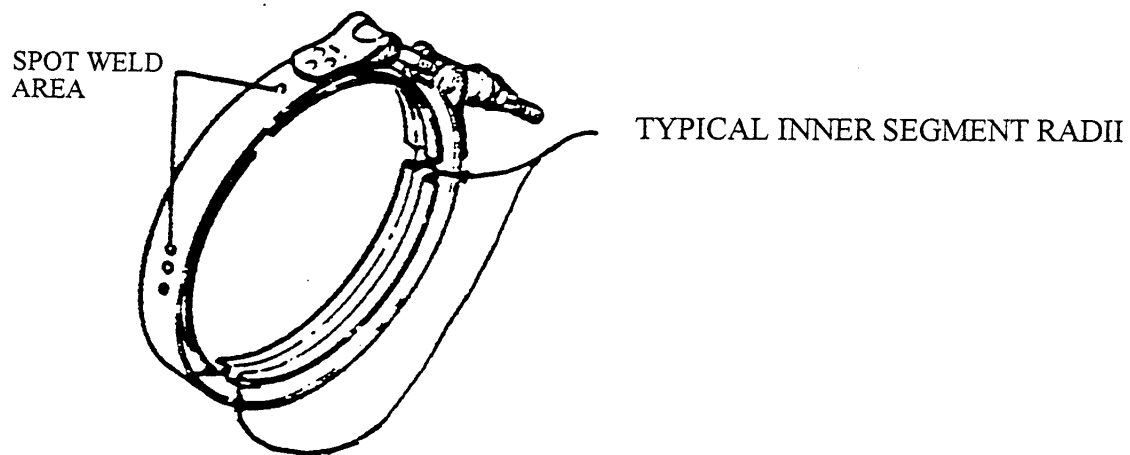


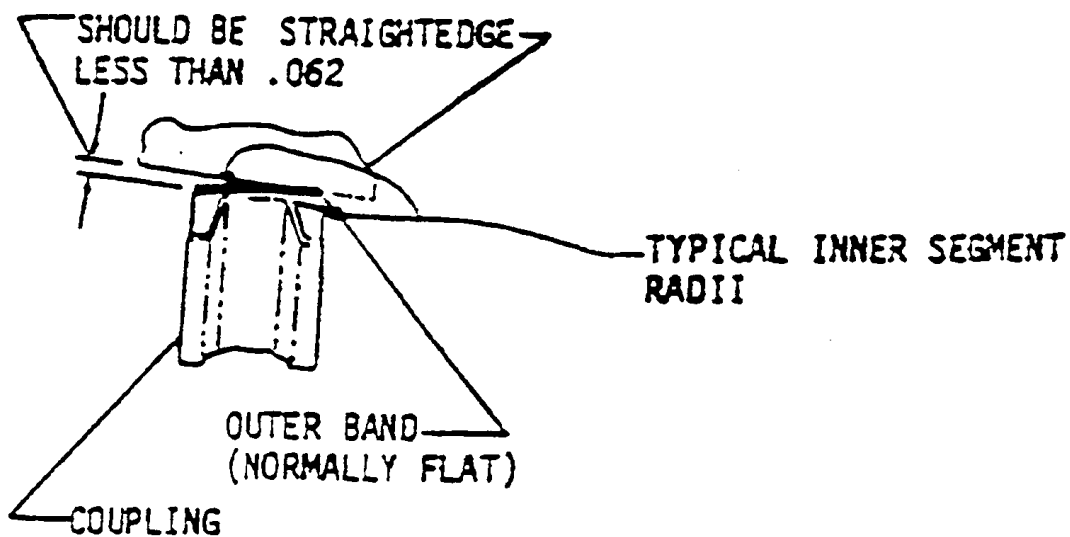
FIGURE 2 to the Appendix

Appendix to Docket No. 97-CE-67-AD (continued)



Multi-Segment "V" Band Clamp

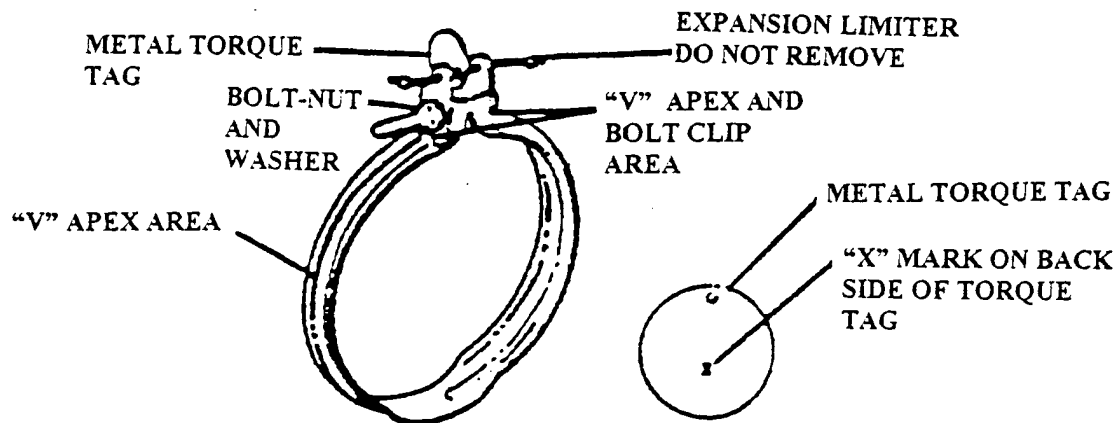
FIGURE 3 to the Appendix



Multi-Segment "V" Band Clamp Outer Band Flatness Check

FIGURE 4 to the Appendix

Appendix to Docket No. 97-CE-67-AD (continued)



One-Piece "V" Band Type Clamp

FIGURE 5 to the Appendix

INSPECTION OF THE EXHAUST SYSTEM AFT OF THE SLIP JOINTS

(a) Remove all top and bottom engine cowlings, as well as the under-nacelle inspection panels (on aircraft so-equipped). Remove the nacelle-mounted induction air filter canister, slip-joint heat shields, turbocharger heat shields, and any other readily-removable components that facilitate a better view of the exhaust system aft of the slip joints.

(b) Visually inspect each elbow pipe that runs from the slip joint to the wye duct. Carefully inspect the hard-to-see areas where the manifold passes through the canted bulkhead, beneath the clamp-on heat shields, and around the flange and V-band clamp, where it joins the wye. Use a flashlight and mirror to inspect the areas that cannot be seen directly.

(1) Look for evidence of exhaust stains, bulges, cracks, or pinholes.

(2) Exhaust stains or evidence of heat-induced corrosion on any portion of the engine mount beams or canted bulkhead should be grounds for removing the elbow pipe for closer inspection.

(3) Inspect for cracks, bulges, pinholes, or corrosion on the elbow (manifold) pipe, and if any of this damage is found, replace the elbow pipe.

(c) Visually inspect each wye duct beneath the turbo charger for leakage, stains, cracks, or pinholes, and, if damaged, repair or replace. Carefully inspect the hard-to-see area between the duct and firewall.

(1) Carefully inspect the turbo-charger and waste-gate flanges and welded seams between the ducts and the firewall for evidence of exhaust stains on the wye or the firewall, bulges, cracks, or pinholes.

(2) If exhaust stains, bulges, cracks or pinholes are found, repair or replace the damaged part.

PRESSURE TEST

(a) Pressurize the exhaust system with air regulated to 20 PSI or below.

(b) Apply this air pressure to the tailpipe. Fabricate shop fixtures as required to accomplish this.

(c) Seal off the waste-gate pipe.

(d) Check the tailpipe, elbow pipes and the wye duct for leaks by spraying leak check fluid (bubbling) on these parts and looking for the appearance of bubbles. Some air leakage is normal at the joints and flanges, but none should be seen anywhere else.

(e) Pay special attention to any weld repairs, and various hard-to-see areas described previously.

(f) If the tailpipes, elbow pipes, or the wye ducts fail the pressure test, repair or replace the distressed component.

(l) This amendment becomes effective on February 15, 2000.

FOR FURTHER INFORMATION CONTACT: Paul O. Pendleton, Aerospace Engineer, FAA, Wichita Aircraft Certification Office, 1801 Airport Road, Room 100, Wichita, Kansas 67209; telephone: (316) 946-4143; facsimile: (316) 946-4407.

Issued in Kansas City, Missouri, on January 10, 2000.

Michael Gallagher, Manager, Small Airplane Directorate, Aircraft Certification Service.

**EUROCOPTER DEUTSCHLAND GMBH
AIRWORTHINESS DIRECTIVE
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

2000-01-19 EUROCOPTER DEUTSCHLAND GMBH: Amendment 39-11517. Docket No.99-SW-74-AD.

Applicability: Model EC 135 P1 and EC 135 T1 helicopters, with main rotor blades up to and including serial number 834, installed, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent a main rotor blade expansion bolt nut becoming loose, causing severe vibration during flight, and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight and thereafter at intervals not to exceed 15 hours time-in-service, visually inspect the main rotor blade expansion bolt safety wire, bolt head, and bolt nut in accordance with the Accomplishment Instructions, paragraph 3.A., steps (1), (2), (3), (4), and (6) of Eurocopter Deutschland GMBH (ECD) Alert Service Bulletin EC 135-62A-005, Revision 1, dated November 16, 1999 (ASB). If the safety wire is improperly fitted, the bolt head is worn, the expansion bolt thread does not protrude through the end of the nut, the bolt head has metallic abrasions, the nut is loose, or the nut has metallic abrasions, before further flight, replace the expansion bolt, part number (P/N) L621M1010 223, with a hexagon bolt, P/N L621M1010 222, and, as necessary, replace the nut in accordance with paragraph 3.B. of the ASB.

(b) Replace all expansion bolts, P/N L621M1010 223, with hexagon bolts, P/N L621M1010 222, and, as necessary, replace the nuts before flight after January 31, 2000.

(c) Replacing the expansion bolts with hexagon bolts and replacing the nuts, as necessary, constitutes terminating action for the requirements of this AD.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Regulations Group, Rotorcraft Directorate, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Regulations Group.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Regulations Group.

(e) Special flight permits will not be issued.

(f) The inspection and replacement of the main rotor blade bolts shall be done in accordance with the Accomplishment Instructions, paragraph 3.A., Eurocopter Deutschland GMBH Alert Service Bulletin EC 135-62A-005, Revision 1, dated November 16, 1999. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from American Eurocopter Corporation, 2701 Forum Drive, Grand Prairie, Texas 75053-4005, telephone (972) 641-3460, fax (972) 641-3527. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, Room 663, Fort Worth, Texas; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

NOTE 3: The subject of this AD is addressed in Luftfahrt-Bundesamt (the Federal Republic of Germany) AD 1999-264, dated July 2, 1999.

(g) This amendment becomes effective on February 4, 2000.

FOR FURTHER INFORMATION CONTACT: Richard A. Monschke, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Fort Worth, Texas 76193-0110, telephone (817) 222-5116, fax (817) 222-5961.

Issued in Fort Worth, Texas, on January 11, 2000.

Eric Bries, Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.

**BELL HELICOPTER TEXTRON CANADA
AIRWORTHINESS DIRECTIVE
EMERGENCY
SMALL AIRCRAFT, ROTORCRAFT, GLIDERS, BALLOONS, & AIRSHIPS**

2000-02-12 BELL HELICOPTER TEXTRON CANADA: Docket No. 99-SW-79-AD.

Applicability: Model 407 helicopters, with oil cooler blower shaft bearing (bearing), part number (P/N) 407-340-339-101 or -103, installed, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (d) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent bearing failure, loss of tail rotor drive, and a subsequent forced landing, accomplish the following:

(a) Within 10 hours time-in-service (TIS), inspect the forward and aft bearings for roughness by hand-rotating the driveshaft with the oil cooler driveshaft connected. Replace any rough bearing before further flight.

(b) Within 25 hours TIS, inspect the forward and aft bearings for roughness by hand-rotating the driveshaft with the oil cooler driveshaft disconnected at both ends. Replace any rough bearing before further flight. After the inspection, lubricate the bearings with MIL-G-25013 grease.

(c) Following the inspection of paragraph (b) and at intervals not to exceed 25 hours TIS, repeat the inspection of paragraph (a). Replace any rough bearing before further flight. After each recurring inspection, lubricate the bearings with MIL-G-25013 grease.

(d) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Regulations Group, Rotorcraft Directorate, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Regulations Group.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Regulations Group.

(e) Special flight permits will not be issued.

NOTE 3: The subject of this AD is addressed in Transport Canada (Canada) AD CF-2000-02, dated January 14, 2000.

(f) Emergency AD 2000-02-12, issued January 21, 2000, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Paul Madej, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Standards Staff, Fort Worth, Texas 76193-0110, telephone (817) 222-5125, fax (817) 222-5961.

Issued in Fort Worth, Texas, on January 21, 2000.

Henry A. Armstrong, Manager, Rotorcraft Directorate, Aircraft Certification Service.